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Morphology of a remarkably well preserved australite found near Ravensthorpe, Western Australia

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Abstract

An australite (Australian tektite) found near Ravensthorpe, Western Australia, is unweathered except for a complex pattern of lines etched on the posterior surface of flight. Other australites from the area show various degrees of weathering and abrasion. A double rim and obtuse ridges on the anterior surface are minor by-products of the loss of the stress shell which have survived because of the insignificant degree of weathering. The surface flaking of the two retained areas of stress shell could be artificial. Enclosure within clayey soil may have minimised water circulation and restricted weathering.

Introduction

In June 1985 Mr A.C. Anderton took an australite (Australian tektite) which he had found on his property near Ravensthorpe to the Albany Branch of the Western Australian Museum for identification and report. Subsequently he donated it to the Western Australian Museum (registration number G13 655). It is remarkable for the almost complete absence of weathering and hence the survival of minor features which have not been reported previously on an australite.

Mr Anderton found the specimen while clearing stones from cultivated ground near the north-east corner of Oldfield Location 850, 11 km west of Ravensthorpe, at *c.* 119°56'E, 33°35'S. It was at the edge of a stone pile on a low ridge of soil turned up by the plough and thus exposed to rain wash.

Description

Australite G13 655 is a round "indicator" in the sense of Fenner (1935, Fig. 1, 1940, p. 316), i.e. a round core from which the aerothermal stress shell has been incompletely discarded. The dimensions are (40.5-42.2) mm diameter x 33.4 mm thick, weight 73.87 g, specific gravity 2.431. Morphological details are described below in sequence from the posterior surface of flight to the anterior surface.

The posterior surface of flight, a remnant of the surface of the primary body, is shiny but with some deep scratches. A test cut in the edge made by the finder with a grinding wheel resulted in a minor loss ~ 0.05 g. Close inspection in oblique

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